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Acute Laryngotracheitis after Accidental Aspiration of Clindamycin

Alessandro Ceschi[1], Margot Von Dechend[1], Martin Krause[2], Mark Kengelbacher[3], Andreas Stuerer[1]

[1]*Swiss Toxicological Information Centre, Zurich, Switzerland*
[2]*Department of Internal Medicine, Kantonsspital Münsterlingen, Münsterlingen, Switzerland*
[3]*Consultant in Otorhinolaryngology, Kantonsspital Münsterlingen, Münsterlingen, Switzerland*

Address correspondence to:

Alessandro Ceschi, MD

Swiss Toxicological Information Centre

Division of Science

Freiestrasse 16

CH-8032 Zurich

Tel: +41-44-634-1034

Fax: +41-44-252-8833

e-mail: Alessandro.Ceschi@usz.ch

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Introduction

Clindamycin is a lincosamide antibiotic which works primarily by inhibiting protein synthesis by binding to the 50s ribosomal subunit of bacteria. It is mainly used for the treatment of anaerobic, streptococcal, and staphylococcal infections. Capsular clindamycin administered orally is used to prevent and treat infections after dental surgery.[1,2] The most common adverse effects associated with clindamycin are diarrhea and allergic reactions and the major disadvantage of clindamycin is its propensity to cause Clostridium difficile-associated diarrhea.[3] The occurrence of esophagitis and esophageal ulcers is a quite frequent adverse reaction, which has been described in detail.[4] In contrast, laryngotracheitis is not described as a possible adverse effect in the product information of clindamycin and reports are also lacking in the medical literature. We report a case of acute laryngotracheitis which occurred immediately after accidental aspiration of the content of a clindamycin capsule. To our knowledge, no comparable cases have been published to date.

Case report

A 78-year-old previously healthy Caucasian man was prescribed capsular clindamycin 150 mg after a dental implant procedure the day before. On the day of admission, the patient ingested one clindamycin capsule with a small amount of water, but during swallowing the capsule accidentally opened with subsequent aspiration of the content. The patient immediately complained of intense burning pain in the throat. He progressively developed respiratory distress and had a syncopal episode at admission to the emergency department. The physical examination revealed an alert, oriented man in mild respiratory distress with hoarseness and a dry cough. His temperature was 38.0°C (100.4°F), all other vital parameters were within normal limits. Examination of the oral cavity revealed hyperemia of the tonsils and posterior pharyngeal wall. The chest examination showed mild rales on all lung fields, and the remainder of the physical examination was normal. Laboratory examination revealed a white blood cell count of 14.2 x 10^9/L and an elevated C-reactive protein level of 73 mg/L. The chest X-ray showed patchy consolidation of the right paracardial and right lower lung fields consistent with discrete signs of aspiration pneumonia. Initial direct laryngoscopy revealed an acute laryngotracheitis with moderate inflammatory edematous changes of the mucous membranes between oropharynx and trachea. Furthermore, two subglottal hemorrhagic lesions and

bilateral chalky, whitish plaques in the sinus piriformis and vallecula were observed. A treatment with methylprednisolone, clemastine, and amoxicillin/clavulanic acid intravenously, was initiated. Control laryngoscopy after three days of treatment showed persistent slight subglottal swelling with spot-shaped whitish coating and slight supraglottal fibrin coating. The clinical course was favourable and the patient was discharged asymptomatic on the fifth day. Steroids were discontinued after five days of treatment, antibiotics after ten days. A follow-up clinical examination on the ninth day showed complete restitution.

Discussion

A search of our database[5] revealed four further cases of adverse events due to accidental aspiration of the content of clindamycin capsules between 1995 and 2009. The clinical features of these cases are summarized in table 1 together with the case described above. The symptoms reported were, in decreasing order of frequency, cough (4 cases), burning pain in the throat (3), dyspnea (3), nausea (3), aphonia (2), syncope (2) and hoarseness (1). Laryngoscopic findings (information was available in only two cases) were suggestive of acute laryngotracheitis. In other two cases - patients c) and d) of the table - symptoms were compatible with this pathologic entity. Acute laryngotracheitis could be responsible for the dyspnea presented by patient e), although laryngoscopic confirmation was not available.

The physicochemical properties of clindamycin could contribute to clindamycin-induced mucosal injury and a possible pathophysiological mechanism may be the acidic pH of 4.4 of clindamycin hydrochloride.[6] However, this hypothesis is not supported by the observation that some caustic pills - clindamycin among others - do not alter the pH when dissolved, so acidity may not explain all injuries.[4] In any case, information about the mechanism of clindamycin-induced mucosal injury is scarce in the literature and available data all concern esophageal drug-induced mucosal-damage.[7,8]

The accidental opening of clindamycin capsules during swallowing can lead to severe laryngotracheitis. Clinicians, especially when treating patients with swallowing dysfunctions, should be aware of this hazard. In this report, we described a potentially severe adverse effect of clindamycin which was insufficiently documented in the medical literature.

Informed consent

Written informed consent was obtained from the patient for publication of this case report.

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Conflict of interest

None declared.

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Table 1.

Adverse events due to accidental aspiration of the content of clindamycin capsules reported to the Swiss Toxicological Information Centre between 1995 and 2009.

Patient	Drug	Situation	Symptoms	Laryngoscopic findings	Therapy	Length of hospitalisation
a) Male (78 years) (reported case)	Clindamycin	Accidental aspiration	Severe burning pain, dyspnea, cough, hoarseness, syncope	Moderate inflammatory edematous changes of the mucous membranes between oropharynx and trachea	Methylprednisolone, clemastine, amoxicillin/clavulanic acid	5 days
b) Female (54 years)	Clindamycin	Accidental aspiration	Cough, nausea, dyspnea, aphonia	Whitish coated, swollen endopharynx. Mild swelling persisting at discharge	Hydrocortisone, amoxicillin/clavulanic acid, logopaedia	7 days
c) Male (age unknown)	Clindamycin	Accidental aspiration	Severe burning pain, cough	n.a.	n.a.	n.a.
d) Male (age unknown)	Clindamycin	Accidental aspiration	Severe burning pain, cough, nausea, aphonia	n.a.	n.a.	n.a.
e) Female (age unknown)	Clindamycin	Accidental aspiration	Nausea, dyspnea, syncope	n.a.	n.a.	n.a.

n.a.: information not available.